# String is a collection of Characters

- `name="John Smith"`
- `print(name[0])`

- `--------------------`
- `Print(name[-1]`

# String Methods

- `name = "John"`
- `print(name.upper())`
- `print(name.lower())`
- `print(name.title())`
- `print(name.find('n'))`
- `print(name.replace('John', 'Ron'))`

# List – stores list of items in square bracket

```
numbers = [1, 2, 3, 4, 5]
numbers[0] # returns the first item
numbers[1] # returns the second item
numbers[-1] # returns the first item from the end
numbers[-2] # returns the second item from the end
--------------
Numbers[0] = 9
print(numbers)
numbers[1:3]
```

# List – using ‘for loop’

```
items = ['apple','orange','mango']
for i in items:
    print(i)
```

# List – Methods

```
numbers.append(6) # adds 6 to the end
numbers.insert(0, 6) # adds 6 at index position of 0
numbers.remove(6) # removes 6
numbers.pop() # removes the last item
numbers.clear() # removes all the items
numbers.index(8) # returns the index of 1st occurrence of 8
numbers.sort() # sorts the list
numbers.reverse() # reverses the list
numbers.copy() # returns a copy of the list
```

# Tuple

They are like read-only lists in round bracket. We use them to store a list of items. But once we define a tuple, we cannot add or remove items or change the existing items.

---

```
items = ('apple','orange','mango')
print(items[0])
items[0] = 'cherry’ - Error
```

---

Try above with a list

# Tuple Methods

```
customer = (3,4,5,4)
print(customer.index(4))
print(customer.count(4))
```

# Set – Definition

Set is a collection which is unordered, unchangeable, and unindexed. No duplicate members. But we can remove and add items. Curly brackets.

```
items = {'apple','orange','mango'}
```

# Set - example

```
items = {'apple','orange','mango'}
for i in items:
    print(i)
----------------------
Try print(items[0])
----------------------
items.add(“cherry")
items.remove(“cherry")
```

# Dictionaries

We use dictionaries to store key/value pairs.

```
customer = {
"name": "John",
"age": 20,
"city": "california"
}
print(customer["name"])
```

# Dictionaries – key, value

```
cust={
'Rohan': 'President',
'Ria' : 'Vice President',
'John' : 'Managing Director'
}
for key, value in cust.items():
    print(key + " - " + value)
```

# List vs Tuple vs Set vs Dictionary

List is a collection which is ordered and changeable. Allows duplicate members. Square brackets.

Tuple is a collection which is ordered and unchangeable. Allows duplicate members. Round brackets.

Set is a collection which is unordered, unchangeable, and unindexed. No duplicate members. But we can remove and add items. Curly brackets.

Dictionary is a collection which is ordered and changeable. No duplicate members. Curly brackets.